THE GREY GUM OF THE NORTH COAST DISTRICTS.

(*Eucalpytus propinqua*, sp.nov.)

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(Plate xliii.)

The Grey Gum of the North Coast districts has for many years held an uncertain botanical position, having being ranked at different times by botanists under *E. punctata*, *E. saligna*, and even *E. viminalis*. We determined to carefully investigate the tree *de novo*, and we have arrived at the opinion that it will but perpetuate the confusion which has for so many years existed, if it be subordinated to any existing species. From observations in the field and upon dried specimens, we find that it is remarkably constant, and in raising it to specific rank under the name of *Eucalyptus propinqua*, we allude to its affinities with *E. punctata* and *E. saligna*.

The species also bears considerable affinity to *E. resinifera*, not only in regard to the fruits, which are so similar as to be distinguished with difficulty from some of the smaller forms of *E. resinifera*, but also in leaf-venation.

Eucalyptus propinqua, sp.nov.

A large, straight growing, cylindrical-stemmed tree, found up to 4 or 5 feet in diameter, and 120 feet and more in height.

Bark.—It has a grey dusty-looking slightly raspy appearance as regards its bark. Next to the Blue or Flooded Gum it is one of the straightest stemmed trees in the forest. The bark darkens, peels off in large longitudinal irregular patches, leaving a smooth white surface, which in course of time darkens, peels off, and the

process is indefinitely repeated. The bark closely resembles, and is perhaps not to be distinguished from, that of *E. punctata.*

Timber.—Dark coloured, and so closely resembling Red Ironbark *(E. siderophloia)* that care is required to distinguish the two timbers. Inclined to have rings or "scabs" of kino, which diminishes the demand for it for sawn stuff. Very durable in or out of the ground, but its tensile strength inferior to that of the Ironbark already referred to.

Seedling leaves.—More broadly lanceolate, and with the marginal vein more distant from the edge, than in the case of the mature leaves. At first opposite.

Mature leaves.—Narrow lanceolate and very uniform. Average length 4-5 inches, breadth $\frac{3}{4}$ inch. Veins not prominent, lateral veins nearly parallel; marginal vein on or very close to the edge of the leaf as a very general rule. Edge usually slightly recurved.

Peduncles flattened.

Calyx-tube hemispherical, and longer than the operculum. Sometimes with the angles of the flattened pedicel decurrent.

Flowers in a marked manner pedicellate; usually in tens, but the umbels containing as few as five flowers.

Operculum hemispherical in general outline, but with a low pointed apex.

Stamens inflexed before expansion, the anthers opening by parallel slits, and all fertile.

Fruit very uniform in size, about $2\frac{1}{2}$ lines broad by $1\frac{1}{2}$ lines deep. Usually 4-celled. Occasionally 3-celled; 5-celled not seen at present. The rim usually shows two sharp edges, with the intervening space concave. The *valves* are well exserted.

The fruits, as regards the rim and general contour, considerably resemble those of the smaller forms of *E. resinifera*, more so than those of *E. punctata.*

Affinities.—The affinities of *E. propinqua* are with *E. saligna* and *E. punctata*, contiguous species in Baron von Mueller's *Census.*

A paper by J. H. Maiden and R. T. Baker in Proc. Linn. Soc. N.S.W. [2], viii., 312, may be here referred to, as the affinity of *E. propinqua* to *E. saligna* is there shown. *E. propinqua* is, in that paper, looked upon as a variety of *E. saligna*.

As regards *E. punctata* and *E. propinqua*, the timber and bark of the two species resemble each other a good deal; they may be, for all practical purposes, identical. They also agree in the flattened peduncles and the stamens (points of resemblance, however, not peculiar to these two species).

Differences.—They differ in the size of the flower-buds and fruits, which in *E. propinqua* are quite small; *E. propinqua* has narrow lanceolate leaves and also has more parallel and less prominent lateral veins than *E. punctata*. The calyx-tube and also the operculum of *E. propinqua* are more distinctly hemispherical and its flowers more pedicellate.

The fruit of *E. punctata*, though variable in size, is always larger and more cylindrical than that of *E. propinqua*.

We are fully aware that *E. punctata*, as at present defined, is a somewhat unsatisfactory species, and it is our intention to fully deal with the matter, in its proper order, in the series of Notes on New South Wales Eucalypts which we will shortly commence to submit to the Society.

Range.—From the Hawkesbury River northwards at least as far as the Tweed River. We have no evidence yet as to whether it extends to Queensland, but it very probably does. Going west it has been found on the eastern slopes of the Dividing Range.

EXPLANATION OF PLATE.

Fig. 1.—Two twigs, showing variation in width of leaves.
Fig. 2.—Part of a leaf, showing venation, and also slight recurving of edge.
Fig. 3.—Vertical section of a bud.
Fig. 4.— ,, ,, of an expanded flower.
Fig. 5.—Front and back view of anther.
Fig. 6.—Individual fruits.